



Torrance Refinery Action Alliance

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Acting Regional Administrator
Environmental Protection Agency (EPA), Region 9
75 Hawthorne St., San Francisco, CA 94105

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Arthur A. Elkins, Jr.
Office of the Inspector General
Environmental Protection Agency
1200 Pennsylvania Ave, N.W. (2410T), Washington, DC 20460

Dear Ms. Strauss and Mr. Elkins:

This letter is written by the Torrance Refinery Action Alliance (TRAA) on behalf of LA's South Bay community to raise concerns over serious and ongoing violations of the Clean Air Act and the Risk Management Program (RMP) at the PBF Energy Torrance Refining Company, LLC (Torrance Refinery or ToRC) located at 3700 W. 190th Street, Torrance, California. Other signatories to this letter include the Environment Integrity Project, Environment California, California League of Conservation Voters, Communities for a Better Environment, Sierra Club, SoCal 350 Climate Action, and Del Amo Action Committee.

Specifically, we request:

1. Modification of the ToRC modified hydrofluoric acid (MHF) RMP report to reflect the correct hydrofluoric acid (HF) worst-case toxic endpoint distance for their alkylation unit
2. Revision of ToRC's RMP plan to ensure that safe operating procedures are developed and implemented for the MHF unit
3. The EPA should prioritize new audits and inspections of the Valero, Wilmington refinery

ToRC's lack of compliance, noted in EPA's March 27, 2017 Notice of Inspection Findings, poses a serious public safety risk and warrants a final determination of revisions per the EPA's RMP Inspection guidance.¹ The EPA inspection team found that Torrance's toxic MHF endpoint distance has been significantly underestimated. The vulnerable zone is significantly larger than the zone that is currently reported. Based on the EPA's documentation and the amount of MHF in the acid settler tanks, the computed endpoint should be 16 miles, significantly higher than the current 3.2-miles, reported by the EPA as having "no clear basis." Details of these computations can be found on page 4. The Valero, Wilmington reports a similarly low toxic distance of 4.3 miles for an even larger MHF release of 55,000 lb. The HF toxic distance for that release is approximately 17 miles. These discrepancies violate the Community Right-to-Know law's guarantee of accurate information on industrial hazards and its use to facilitate emergency preparedness.

ToRC is located in the second most densely populated HF refinery area in the US; the Valero, Wilmington is located in the third most densely populated HF refinery area in the US. Millions more people and dozens of cities, including multiple environmental justice communities, lie within the larger

¹ *Guidance for Conducting Risk Management Program Inspections under Clean Air Act section 112(r)*. EPA 550-K-11-001. https://www.epa.gov/sites/production/files/2013-10/documents/clean_air_guidance.pdf January 2011.

zone, which are not within the smaller zone of the existing RMP (see pages 5-6). According to the EPA's Enforcement and Compliance History Online (ECHO) website, the population density around Torrance is 8879 people per square mile within 3 miles of the refinery, an area that is almost 65% minority population and has an impaired waterbody, Torrance Lateral, listed as CWA 303(D), impaired class 5. Torrance Lateral is a subwatershed that flows directly into Dominguez Channel Estuary. Allocations are assigned to the Torrance Refinery and all other dischargers. Mass-based sediment allocations are assigned to the Torrance Refinery.²

Another area of concern is that the inspection found a lengthy list of other deficiencies, including:

- (1) Failure to follow manufacturer's test procedures for critical equipment
- (2) Failure to correct problems with equipment in a safe and timely manner
- (3) Failure to follow operating procedures and operate critical safety systems when transferring HF
- (4) Failure to follow administrative controls limiting the amount of HF per acid settler tank
- (5) Inadequate operating procedures for handling MHF and for the event of a shutdown

Failure to act in this case would be inconsistent with the EPA's stated goals, guidance, and regulations, and would perpetuate a serious risk to public safety.

EPA March 2017 Inspection Findings

EPA's report found that ToRC's RMP report is deficient in several ways. The inspection team observed that the RMP did not appear to be in compliance with many of the EPA's Chemical Accident Prevention Provisions (40 CFR section 68). These points of non-compliance are extremely serious in nature. According to Clean Air Act enforcement guidelines,³ many points could constitute a violation of the General Duty clause if the operators of the Torrance refinery refused to address them. Specifically:

Failure to implement a quality control program to ensure that components and materials meet design specifications and to construct the process equipment as designed. According to item 6 of EPA's report, ToRC's design documentation was inconsistent with the elements found in the field. According to item 7, ToRC did not correctly apply nameplates on pressure vessel D5C-31. According to item 11, ToRC did not test critical systems in accordance with manufacturer instructions. According to item 12, ToRC did not correct equipment deficiencies in a safe and timely manner.

Failure of operators or employees to implement or follow operating instructions or company rules.

Items 8-10 of EPA's report indicate that ToRC did not fully implement its operating procedures, did not correctly assign responsibilities in the event of a shutdown, and did not include operating limits in procedures for transferring HF. Of particular concern is that ToRC did not implement operating procedures for safe transfer of HF, and performed transfers with critical safety systems offline. Item 1 of the report states that ToRC had many different sets of RMP documentation which were not reconciled, and item 2 states that ToRC did not correctly document the individuals responsible for implementing the RMP.

² Proposed Amendment to the Water Quality Control Plan – Los Angeles Region, <https://www.waterboards.ca.gov/losangeles/board_decisions/basin_plan_amendments/technical_documents/66_New/10_1217/04%20Basin%20Plan%20Amendment.pdf>.

³ Section 4, Appendix A, "Examples of Common Failures that Have Resulted in a General Duty Clause Violation." Pp. 25-26, *Final Combined Enforcement Policy for Clean Air Act sections 112(r)(1), 112(r)(7) and 40 CFR part 68*. <https://www.epa.gov/sites/production/files/documents/112rcep062012.pdf> June 2012.

Failure to develop an emergency plan that specifically addresses release scenarios developed from the identification of hazards and historical information. Items 3-5 of EPA's report clearly indicate that ToRC did not correctly identify hazards and possible release scenarios. In particular, according to item 3, ToRC's RMP

1. Relied on an administrative control that was not followed,
2. Used an approach inconsistent with regulatory requirements in 40 CFR § 68.25(b): taking credit for passive mitigation measures by reducing the release amount,
3. Considered the modifier as a passive mitigation measure despite the fact that it must be mixed with the acid in a process requiring human and mechanical input,
4. Used the quantity of acid in the settler tanks and not the larger amount in the acid storage vessel,
5. Used data for a percentage of hydrofluoric acid solution in their toxic endpoint determination instead of the correct data for anhydrous hydrogen fluoride, and
6. Offered no clear basis for their selection of an endpoint of 3.2 miles.

EPA's Published Goals and Guidance

Given the serious nature of the concerns raised by the inspection, the EPA must issue a determination of necessary revisions to ToRC's RMP and make them available to the public. The EPA has a National Enforcement Initiative for FY 2017-2019 to "reduce risk of accidental releases at industrial and chemical facilities through innovative accident prevention measures and improving response capabilities"⁴. The current state of ToRC's RMP report directly contradicts this stated initiative. It is clear from the EPA's inspection report that insufficient accident prevention measures are in place and that response capabilities are currently hindered by an inaccurate estimation of the toxic endpoint distance for the modified hydrofluoric acid alkylation process. It is also clear that the risk associated with an accidental release of hydrogen fluoride would be extremely high, due to the facility's location in a densely populated residential area of Los Angeles County.

EPA has assigned responsibility for achieving this enforcement initiative to the Office of Land and Emergency Management (OLEM). The OLEM manager guidance for FY 2018-2019⁵ indicates that the state and local prevention and preparedness program requires that EPA regions "Conduct all RMP inspections in accordance with the Guidance for Conducting Risk Management Program Inspections Under Clean Air Act Section 112(r)"⁶ [1]. Appendix A of the RMP inspection guidance, in Post Audit Actions, states the following on page A-1: "Based on the results of the audit, the implementing agency may issue the owner or operator a written preliminary determination of necessary revisions to the facility's RMP to ensure that the RMP meets the criteria of 40 CFR Part 68, Subpart G." Page A-2 states: "After providing the owner or operator an opportunity to respond to the preliminary determination, the implementing agency may issue the owner or operator a written final determination

⁴ "National Enforcement Initiative: Reducing Risks of Accidental Releases at Industrial and Chemical Facilities." United States Environmental Protection Agency. <https://www.epa.gov/enforcement/national-enforcement-initiative-reducing-risks-accidental-releases-industrial-and-chemical-facilities>

⁵ "State and Local Prevention and Preparedness Program." Pg 10, *Office of Land and Emergency Management National Program Manager Guidance Fiscal Years 2018-2019*. Publication Number 540B16001. <https://www.epa.gov/sites/production/files/2017-09/documents/fy18-19-olem-npm-guidance.pdf> September 29, 2017.

⁶ "After-Audit Actions", "Annex A: RMP Audits Conducted Pursuant to 40 CFR Part 68.220." Pp. A-1 – A-2, *Guidance for Conducting Risk Management Program Inspections under Clean Air Act section 112(r)*, EPA 550-K-11-001. https://www.epa.gov/sites/production/files/2013-10/documents/clean_air_guidance.pdf January 2011.

of necessary revisions to the facility's RMP." To our knowledge, no such preliminary or final determination of necessary revisions has been issued, and per the same appendix, "The public should have access to the preliminary determination, response, and final determination pursuant to 42 USC 7414(c) [68.210(a), 68.220(i)]." Given that ToRC's RMP is in conflict with EPA's stated initiative of reducing risk, it is clear that EPA should follow the guidelines it has established for achieving the initiative, and issue a preliminary determination with the ultimate goal of revising the RMP in order to reduce the risk associated with an accidental release.

Computation of Toxic Endpoint Distance for MHF

The public safety risk posed by the deficiencies in ToRC's RMP found by the EPA's inspection team cannot be overstated. One specific risk that deserves a more thorough examination is the risk posed by ToRC's incorrect computations of the toxic endpoint for their modified hydrofluoric acid process.

Following the EPA's Risk Management Procedure guidelines for toxic gases⁷, the toxic endpoint should be computed as follows:

1. Per EPA's report, HF modification should not be included, as it requires a mechanical process and the input of human and mechanical energy. It is therefore not a passive mitigation.
2. Acid settler tanks contain an estimated 50,000 lb. of MHF. It is possible this is an underestimate of the largest amount stored in one vessel, as the EPA inspection team found that tanks were regularly filled to higher levels and the acid storage vessel contains a larger quantity of HF than the settler tanks.
3. Per equation 3-1 of the guidelines, the release rate to be used is 5000 lb./minute.
4. Per Exhibit B-1 of the appendix to the guidelines, anhydrous HF has toxic endpoint of .016 mg/L
5. Per note i of the same appendix exhibit table, HF released under high pressure and high concentration forms a dense cloud, so the "dense gas" tables should be used.
6. ToRC is located in an urban area with obstructions (primarily buildings, many of them homes), so Table 7 for dense gases in urban areas should be used.
7. Fitting a curve to the toxic endpoint data for a 5000 lb./min release in Table 7 gives an interpolated value of approximately 16 miles (rounded up) for a toxic endpoint of .016 mg/L.

Implications of Larger Vulnerability Zone

Due to ToRC's location, the difference between a 3.2-mile and 16-mile endpoint is particularly significant. First, this represents a significant increase in the number of people living in the vulnerability zone. The population density of the Los Angeles-Long Beach-Anaheim metro area is approximately 7000 people per square mile⁸. Some portion of the increased zone lies within the Pacific Ocean. Conservatively assuming this is 1/3 of the increased area, the increased endpoint would represent an increase of around 3-3.5 million additional people at risk, around 1 percent of the US population. In addition to this increased risk to human life due to the dense population of this area, there is a serious, preventable risk associated with the fact that dozens of additional cities and unincorporated areas, many of them of significant population size, lie within this range (see table below for a partial listing). Even if

⁷ Section 3.1.1, "Unmitigated Releases of Toxic Gases." pp. 3-2 – 3-3, *Risk Management Program Guidance for Offsite Consequence Analysis*. United States Environmental Protection Agency. EPA 550-B-99-009. <https://www.epa.gov/sites/production/files/2013-11/documents/oca-chps.pdf> March 2009.

⁸ "Growth in Urban Population Outpaces Rest of Nation, Census Bureau Reports." United States Census Bureau. https://www.census.gov/newsroom/releases/archives/2010_census/cb12-50.html March 26, 2012

active mitigation measures were to reduce airborne acid by 80%, that would leave 10,000 lb. of airborne HF, giving a toxic distance of approximately 7 miles. Due to the flaws in ToRC's analysis, these local governments have not been given an opportunity to implement emergency preparedness measures or to coordinate emergency response plans with ToRC and other municipalities. This presents a significant danger to public safety that would be mitigated by a revision to the RMP.

Table: Listing of cities in order of proximity to Torrance refinery, with estimated distance to closest portion of city and populations. Italicized cities already have a non-trivial portion of the city within the RMP's toxic endpoint distance.

City Name	Distance to closest point	Population
<i>Torrance</i>	0	147,195
<i>Los Angeles</i> ^{9*}	1.3 miles	3,976,000
<i>Redondo Beach</i>	1.4 miles	67,867
<i>Gardena</i>	1.6 miles	60,048
<i>Carson</i>	2.7 miles	92,797
Hawthorne	3.0 miles	88,031
Hermosa Beach	3.1 miles	19,789
Manhattan Beach	3.2 miles	35,741
Palos Verdes Estates	3.8 miles	13,586
Rolling Hills Estates	4.2 miles	8,231
El Segundo	4.5 miles	16,843
Rancho Palos Verdes	4.6 miles	42,435
Compton	4.8 miles	97,550
Willowbrook	4.9 miles	35,983
Inglewood	5.1 miles	110,654
Rolling Hills	5.1 miles	1,887
Long Beach	7.0 miles	470,130
Lynwood	8.0 miles	71,187

⁹ The City of Los Angeles has a closest distance of 1.3 miles from the refinery for the Harbor Gateway area. Higher percentages of the city population are at risk as the toxic endpoint increases, but some of the city never lies within the vulnerability zone due to its large size.

South Gate	8.7 miles	95,538
Paramount	9.0 miles	54,909
Culver City	9.3 miles	39,364
Lakewood	9.5 miles	81,138
Huntington Park	10.1 miles	58,879
Marina Del Rey	10.3 miles	8,866
Bellflower	10.5 miles	77,790
Downey	10.7 miles	113,267
Bell	11.4 miles	35,477
Bell Gardens	11.8 miles	42,806
Santa Monica	13.1 miles	92,478
Cerritos	13.3 miles	50,555

In addition to the obvious public safety hazard to the local area, EPA's failure to act in this case would also set a precedent for similar facilities. If operators believe that there will be no consequences for underestimating the risk of industrial hazards, they are likely to do so. This endangers public safety. In particular, if Torrance is allowed to use dramatically underestimated toxic endpoint distances rather than following EPA's risk management guidelines, it is likely other operators will do the same, and report distances that make the risk appear smaller than it actually is. This would violate the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986, created to help communities plan for chemical emergencies. That would be a serious disservice to the American public, who have the right to be accurately informed and prepared for accidents of this magnitude. It would also be a serious disservice to America's first responders; the EPA and facility operators owe it to these men and women to ensure emergency response plans accurately reflect the risk level and vulnerability zones.

The EPA should issue a preliminary determination of deficiencies against Torrance, given the EPA's findings regarding MHF and the resulting miscalculation of toxic endpoint distance by ToRC.

Valero Wilmington Refinery

The EPA should prioritize inspections of the Valero Wilmington refinery, which also uses MHF. The Guidance for Conducting Inspections states: “EPA policy requires EPA regional offices to prioritize inspections at “high-risk” facilities. High-risk facilities include facilities with a large residential population within the facility’s worst-case scenario vulnerable zone... and facilities with very large quantities of regulated substances held on site.” It further states that “In making their selections, implementing agencies may choose to consider additional factors such as geographic location or clustering, proximity to minority or low-income residential areas, industry sector trends, and specific facility hazards or characteristics.” There are several densely populated Environmental Justice communities at risk within the MHF risk zones for the Torrance and Valero Wilmington refineries.

The Valero Wilmington refinery is located in a community that is over 90% people of color, and impacted by multiple refineries, oil drilling, major ports, transportation and other heavy cumulative impacts. U.S. EPA has re-affirmed its intention to provide the same degree of protection from environmental and health hazards for such EJ communities. For example, in the Feb. 23, 2018 Memorandum (EPA’s Environmental Justice and Community Revitalization Priorities), EPA stated will “Advance a more systematic approach to ensuring stronger consideration of vulnerable groups and communities in decisions through EPA’s rulemaking, permitting, compliance and enforcement, and emergency response and recovery programs.”¹⁰ For this and the other reasons stated in this letter, EPA should also provide new audits and inspections of the Valero Wilmington facility. An audit of the Valero Wilmington refinery is consistent with this guidance. Valero is geographically close to Torrance as well as several other refineries, and uses the same MHF alkylation process that Torrance is using. Given their geographic proximity, common use of modified hydrofluoric acid, and very low toxic distance of 4.3 miles, this facility clearly uses some of the same wrong assumptions regarding toxic endpoint computation used by ToRC. EPA should review Valero Wilmington’s RMP and ensure that the surrounding communities are correctly informed and prepared for the risks.

Conclusion

For the reasons outlined above, the Torrance Refinery Action Alliance, Environment Integrity Project, Environment California, California League of Conservation Voters, Communities for a Better Environment, Sierra Club, SoCal 350 Climate Action, and Del Amo Action Committee request that EPA Region 9 immediately initiate enforcement against the ToRC facility for the serious and ongoing violations discovered during the December 2016 inspection. There has already been a serious accident on site due to mismanagement, resulting in a near miss that could have caused catastrophic loss of life.

Our community recently became aware of a letter ToRC delivered to the City of Hermosa Beach stating, “Since receiving EPA’s preliminary findings related to the refineries currently filed RMP WCS... ToRC and EPA have had frequent meetings and conference calls to clarify and resolve the preliminary findings. This cooperative and robust dialogue is contingent currently continuing, consistent with the agreed-to path forward between ToRC and EPA.”¹¹

¹⁰ US EPA memo, Feb 23, 2018, <https://www.epa.gov/sites/production/files/2018-02/documents/epa_ej_memo_02.23.2018.pdf>.

¹¹ City of Hermosa Beach, 2018-03-13, ToRC Supplemental, Attachment 13, <http://bit.ly/2IE3zHK>

The South Bay public and media have not been included in this dialogue, which is unfortunate. The 2017 inspection report identified serious concerns about the possibility of a MHF release and its potential impact, which could harm significant numbers of people and areas of the South Bay and beyond. TRAA met with the EPA at its request on September 19, 2016 at the joint SCAQMD and EPA meeting on ExxonMobil's RMP report. But since then, we have reached out without success to EPA officials we met, seeking an update on the 2016 inspection findings, the 2017 Inspection Report, and plans for EPA corrective actions to MHF RMP reports. Our community looks forward to the public being included as a stakeholder in the dialogue to determine a path forward. Our lives depend on it.

Do not hesitate to contact us with questions.

Sincerely,

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